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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/877,341	06/08/2001	Gerald B. Eaton	86821	1029

7590 06/30/2005

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EXAMINER
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MCAVOY, ELLEN M

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/877,341

Applicant(s)

EATON ET AL.

Examiner

Ellen M. McAvoy

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Storm (6,178,980 B1) in combination with Eaton et al (6,015,779) or Eaton et al (5,869,570).

As set forth in a previous office action, Storm discloses a method of reducing the viscosity of a heavy oil flowing through a pipe which comprises mixing heavy oil, water in an amount of 1-10% by volume, and an effective amount of a C<sub>1</sub> to C<sub>10</sub> alcohol such as 1-propanol, 1-butanol, 1-pentanol, 1-hexanol, 1-heptanol, or mixtures thereof. The concentration of alcohol should be less than 10% by weight of the mixture. See column 3, lines 5-30. The examiner is of the position that the alcohol component of Storm meets the claim limitation of an alfol alcohol of applicants' invention. The drag reducing agent slurry of the claims comprises a polyalphaolefin and at least one alfol alcohol. However, the Eaton et al ["Eaton"] references disclose polyalphaolefins as drag reducing agents and Storm teaches that the mixture may further include a polymeric drag reducing agent in a concentration from about 1 to about 10,000 ppm. See column 8, lines 64-67.

The Eaton references relate to methods for improving flow of hydrocarbons through conduits, particularly pipelines, and disclose compositions of polyalphaolefins that function as drag reducing agents and disclose a process for the preparation of the polyalphaolefins. The

process includes contacting alpha-olefin monomers with a catalyst system which includes a transition metal catalyst such as titanium trichloride and a co-catalyst such as alkylaluminumoxane which may be used in combination with a dialkylaluminum halide or a halohydrocarbon. The alpha-olefin monomers include homopolymers, copolymers and terpolymers which can be present in the reactant mixture in different amounts, alone or in combination, and include copolymers of 1-hexene and 1-dodecene and co-polymers of 1-octene and 1-tetradecene. See column 2, line 60 to column 3, line 7 of Eaton '779. The polyalphaolefins of Eaton may include noncrystalline, ultra-high molecular weight polymers having an inherent viscosity of at least about 10 deciliters per gram. See column 3, lines 13-35 of Eaton '779. The examiner is of the position that the polyalphaolefin drag reducing agents taught in the Eaton references meet the claim limitations for the polyalphaolefin components and meet the claim limitations for forming the polyalphaolefin components. Thus, having the prior art references before the inventors at the time the invention was made it would have been obvious to the skilled artisan to have combined a known polymeric drag reducing agent to the composition of Storm. The examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation relied on by the examiner is the teaching in column 8 of Storm allowing for the addition of a polymeric drag reducing agent in a concentration of from about 1 to 10,000 ppm.

Applicants argue that Storm is not directed to drag reducing agent slurries, but instead to modifying the viscosity of heavy oil in a pipeline by mixing the heavy oil with water and alcohol and then injecting this mixture through a pipeline. This is not deemed to be persuasive since Storm teaches compositions containing heavy oil, water, a C<sub>1</sub> to C<sub>10</sub> primary linear alcohol, and optionally, a polymeric drag reducing agent in a concentration from about 1 to about 10,000 ppm. See column 8, lines 9-41. Applicants' open-ended claim language "comprising" allows for the addition of other additives to the compositions including the heavy oil and water of Storm. The examiner is of the position that the compositions of Storm meet the limitations of the drag reducing agent slurry of the claims.

Applicants also argue that there is no motivation to combine the teachings of Storm with the teachings of Eaton '779 or Eaton '570. This is not deemed to be persuasive since Storm allows for the addition of a polymeric drag reducing agent to the composition which reduces the pipeline drag of heavy oil during pipeline transport. The Eaton references teach a polymeric drag reducing agent for the very same purpose, that for improving the flow of hydrocarbons such as crude oil during pipeline transport. Further, the Eaton references teach that an amount of about 1 to 250 ppm of the drag reducing agent is sufficient and Storm teaches the amount of about 1 to 10,000 ppm of the polymeric drag reducing agent. The examiner is of the position that there is sufficient motivation to combine the teachings of the two Eaton references with the teachings of Storm.

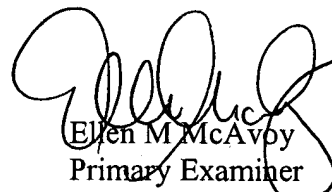
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The rejection of claims 1-23 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 10/826,580 made in the previous office action is withdrawn in view of applicants' submission of a terminal disclaimer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ellen M. McAvoy whose telephone number is (571) 272-1451. The examiner can normally be reached on M-F (7:30-5:00) with alt. Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Ellen M. McAvoy  
Primary Examiner  
Art Unit 1764

EMcAvoy  
June 24, 2005